

SEALING COMPOSITION

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Abstract

PROBLEM TO BE SOLVED: To prepare a sealing composition comprising crystalline low melting glass powder having a specific chemical composition and ceramic whiskers, capable of increasing the strength of sealed parts between a panel and a funnel which influences the strength of a Braun tube, and capable of preventing the thickness of a valve from increasing and capable of reducing the weight of the tube by specifying the thermal expansion coefficient ratio of the glass to the whisker.

SOLUTION: This composition comprises 90-99.9 vol.% low melting glass powder and 0.1-10 vol.% ceramic whiskers. The aspect ratio of the whisker is 3-100 and the ratio (A/B) of the thermal expansion coefficient A of the glass to the thermal expansion coefficient B of the ceramic is 0.7-2.2. The low melting glass has a composition comprising 72-83 wt.% PbO, 7-10 wt.% B₂O₃, 5-14 wt.% ZnO, 1-3 wt.% SiO₂ and 0.1-3wt.% (BaO+SrO+CaO). The thermal expansion coefficient of a burned product obtained by burning the composition is (80-105)× 10⁻⁷/ deg.C. By retaining the composition at 400-450 deg.C for 30-40 min to be burned, a sealing procedure is carried out.

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